Patent claims

1. A method for detecting lane changing operations for a vehicle in which at least one observation variable which describes the lane changing behavior of an observed other vehicle (15) is determined, a lane changing variable (CV) which characterizes a lane changing intention of the observed other vehicle (15) on the basis of a roadway lane assigned to the other vehicle (15) being determined in dependence on the at least one observation variable.

2. The method as claimed in claim 1, characterized in that the lane changing variable (CV) relates to swerving of the other vehicle (15) into a roadway lane assigned to the driver's own vehicle (16).

3. The method as claimed in claim 1, characterized in that the lane changing variable (CV) describes the probability of an imminent lane change of the other vehicle (15), an imminent lane change being deduced when the probability is greater than a characteristic threshold value.

4. The method as claimed in claim 1, characterized in that a first observation variable is a lane offset variable (o_{lane}), which describes a lateral shift of the other vehicle (15) in relation to the center of its lane on the roadway.

5. The method as claimed in claim 1, characterized in that a second observation variable is a lane offset alteration variable (v_{lat}), which describes a lateral velocity of the other vehicle (15) in the

orthogonal direction in relation to a tangent to the path followed by its roadway lane.

6. The method as claimed in claim 1, characterized in that a third observation variable is a lateral offset acceleration variable ($a_{y,max}$), which describes a maximum occurring lateral acceleration of the other vehicle (15) on the basis of an imminent lane change.

7. The method as claimed in claim 1, characterized in that a fourth observation variable is a lane curvature variable (v_{lane}), which describes a curvature of the path followed by the roadway lane of the other vehicle (15).

8. The method as claimed in claim 1, characterized in that a fifth observation variable is a lane crossing time variable (t_{lcr}), which describes that period of time which is expected to elapse before a roadway marking delimiting the roadway lane of the other vehicle (15) is crossed.

9. The method as claimed in claim 1, characterized in that a sixth observation variable is a gap distance variable (x_{gap}), which describes a distance of the other vehicle (15) in relation to the gap between the vehicles located between the driver's own vehicle (16) and a leading vehicle (17), and/or a gap relative velocity variable ($v_{gap,rel}$), which describes a velocity of the other vehicle (15) in relation to the gap between the vehicles, and/or a gap relative acceleration variable ($a_{gap,rel}$), which describes an acceleration of the other vehicle (15) in relation to the gap between the vehicles.

10. The method as claimed in claim 1, characterized in that allowance for the variance of the at least one

observation variable is made in the determination of the lane changing variable (CV).

11. The method as claimed in at least one of claims 1 or 10, characterized in that the at least one observation variable and/or its variance is determined by using a Kalman filter.

12. The method as claimed in at least one of claims 1 or 11, characterized in that a number of observation variables and/or their variances are determined, these being combined with one another for determination of the lane changing variable (CV) by means of a probabilistic network.

13. The method as claimed in claim 1, characterized in that driver-independent interventions are performed in the vehicle's equipment provided for influencing the longitudinal and/or lateral dynamics of the vehicle (16).

14. The method as claimed in claim 1, characterized in that, in the case of an imminent lane change, an optical and/or acoustic and/or tactile indication to the driver is output to the driver of the vehicle (16).

15. The method as claimed in claim 1, characterized by use in conjunction with a longitudinal and/or lateral control system arranged in the vehicle (16).

16. A device for detecting lane changing operations for a vehicle, with observation means (20) for observing another vehicle (15), which are provided for determining at least one observation variable describing the lane changing behavior of the observed other vehicle (15), an evaluation unit

(21) determining in dependence on the at least one observation variable a lane changing variable (CV) which characterizes a lane changing intention of the other vehicle (15) on the basis of a roadway lane assigned to the other vehicle (15).

17. The device as claimed in claim 16, characterized in that the observation means (20) comprise a first sensor device (20a) for object tracking and a second sensor device (20b) for lane tracking.